WHAT IS CLAIMED IS:

1. A packing material for solid phase extraction comprising a synthetic polymer comprising a hydrophobic group and an ion exchange group.

2. A packing material for solid phase extraction, comprising a synthetic polymer obtained by copolymerizing a hydrophobic monomer (A) and a hydrophilic monomer (B) and introducing thereto an ion exchange group by a chemical modification.

3. The packing material for solid phase extraction as claimed in claim 1, which contains an aromatic divinyl compound as the hydrophobic monomer (A) in an amount of 30% by mass or more based on a total amount of monomers.

4. The packing material for solid phase extraction as claimed in claim 1 or 2, which contains an N-vinylcarboxylic acid amide as the hydrophilic monomer (B) in an amount of 5 to 60% by mass based on the total amount of monomers.

5. The packing material for solid phase extraction as claimed in claim 4, wherein the N-vinylcarboxylic acid amide is N-vinyl-2-pyrrolidone or N-vinylacetamide.

6. The packing material for solid phase extraction as claimed in claim 1 or 2, which contains a (meth)acrylic acid ester of a polyhydric alcohol having a hydroxyl group as the hydrophilic monomer (B) in an amount of 10% by mass or more based on a total amount of monomers.

7. The packing material for solid phase extraction as claimed in claim 6, wherein the (meth)acrylic acid ester of a polyhydric alcohol having a hydroxyl group is glycerol dimethacrylate.

8. The packing material for solid phase extraction as claimed in claim 1 or 2, wherein the ion exchange group is covalently bonded to the polymer.

9. The packing material for solid phase extraction as claimed in claim 1 or 2, wherein the ion exchange group covalently bonded is a sulfo group or a quaternary ammonium.

10. The packing material for solid phase extraction as claimed in claim 1 or 2, wherein an amount of an ion-exchange group covalently bonded is 5 μ-equivalent or more based on 1 dry gram of the packing material.

11. The packing material for solid phase extraction as claimed in claim 1 or 2, which packs a packing apparatus.

12. The packing material for solid phase extraction as claimed in claim 11, wherein the packing apparatus is a column, a cartridge or a reservoir.

13. The packing material for solid phase extraction as claimed in claim 1 or 2, which is used for concentrating an objective component and/or removing impurities or contaminants.

14. The packing material for solid phase extraction as claimed in claim 1 or 2, which has an average particle size of 1 to 200 μm.

15. A method comprising carrying out a solid phase extraction employing a column switching method and the packing material for solid phase extraction described in claim 1 or 2.

16. A column for solid phase extraction, comprising a column packed with the packing material for solid phase extraction described in claim 1 or 2.

17. A cartridge for solid phase extraction, comprising a cartridge packed with the packing material for solid phase extraction described in claim 1 or 2.

18. The column for solid phase extraction as claimed in claim 16, which concentrates, identifies or quantifies an objective component and/or removes

impurities or contaminants.

19. The cartridge for solid phase extraction as claimed in claim 17, which concentrates, identifies or quantifies an objective component and/or removes impurities or contaminants.

20. A solid phase extraction method for an environment-related, medical or biological sample, comprising concentrating, identifying or quantifying an objective component and/or removing impurities with the column for solid phase extraction described in claim 16.

21. A solid phase extraction method for an environment-related, medical or biological sample, comprising concentrating, identifying or quantifying an objective component and/or removing impurities with the column for solid phase extraction described in claim 17.

22. The method as claimed in claim 20, wherein a drug sample in serum is identified or quantified.

23. The method as claimed in claim 21, wherein a drug sample in serum is identified or quantified.